Amendments to the Claims:

Please cancel claims 2 and 8, and amend claims 1, 3-7 and 9 as shown in the following list of claims. This listing of claims will replace all prior versions, and listings, of claims in the application.

1.   (currently amended) A method of canceling a narrow-band interference signal in a receiver, comprising the steps of:

[[-]] subtracting a reference signal (ref_in) from a received input signal (in);

[[-]] calculating the phase of a result of the subtraction on the basis of an arctangent function,

[[-]] performing an unwrap function on the output signal from the arctangent function, by removing the modulo 2Π limitation introduced with the arctangent function, thereby producing an absolute phase representation,

[[-]] determining a frequency offset by comparing phase representation values which are shifted predetermined in time, and

[[-]] canceling the narrow-band interference signal based on the result of the determined frequency offset, wherein the unwrap function accumulates k times 2Π, where k depends on the wrapped function so that k will be increased by 1 if the difference between the last corrected sample and the current sample is smaller than $-\Pi$, and k will be decreased by 1 if the difference between the last corrected sample and the current sample is greater than Π.

2.   (canceled).

3.   (currently amended) A method according to claim 1, characterized in that the subtracting step can be put on a hold a predetermined period of time, if there is no reference signal available to perform the subtraction.

1 4.   (currently amended) A method according to claim 1 [[2]], characterized in

2 that the unwrap function can be put on a hold a predetermined period of time, if

3 there is no reference signal available to perform the unwrap function.

1 5.   (currently amended) A method according to claim 1 [[2]], characterized in

2 that the canceling the narrow-band interference signal is performed by selecting a

3 filter from within a filter-bank based on the value of k.

1 6.   (currently amended) A method according to claim 1 [[2]], characterized in

2 that the canceling the narrow-band interference signal is performed by generating

3 a second narrow-band signal, which corresponds to the narrow-band interference

4 signal, and by subtracting the second narrow-band signal from the distorted

5 desired wide-band signal.

1 7.   (currently amended) An apparatus characterized in that the apparatus

2 comprises

3   [[-]] a subtracting unit (SU) for subtracting a reference signal (ref_in) from

4 a received input signal (in);

5   [[-]] a complex phase calculator for calculating the phase of a result of the

6 subtraction signal on a sample-by-sample basis of the in-phase and quadrature

7 components of the signal and performing an arctangent function on the in-phase

8 and quadrature components of the incoming signal,

9   [[-]] a phase unwrap module for removing discontinuities in the phase if

10 the phase passes the in-phase axes in the complex plane with an absolute value

11 greater than Π,

12   [[-]] a comparator module arranged to compare the difference in phase

13 signal values at predetermined time intervals, the difference in said values

14 representing a [[an]] frequency offset in the subtracting signal, and

15   [[-]] a canceling means for canceling the narrow-band interference signal

16 based on the result of the determined frequency offset,

17   wherein the phase unwrap module is configured to accumulate k times 2Π,

18 where k depends on the wrapped function so that k will be increased by 1 if the

19 difference between the last corrected sample and the current sample is smaller

20 than $-\Pi$, and k will be decreased by 1 if the difference between the last corrected

21 sample and the current sample is greater than Π.

1 8. (canceled).

1 9. (currently amended) An apparatus according to claim 7 [[8]], characterized

2 in that the canceling means comprises a filter-bank, wherein the narrow-band

3 interference signal is canceled by selecting a filter from within said filter-bank

4 based on the value of k.

1 10. (original) An apparatus according to claim 7, characterized in that the

2 canceling means comprises a generating means for generating a second narrow-

3 band signal, which corresponds to the narrow-band interference signal, and a

4 subtracting means for subtracting the second narrow-band signal from the

5 distorted desired wide-band signal.